2017 ENVIRONMENTAL ASSESSMENT

Cooperative Gypsy Moth Slow the Spread Project

For

Russell, Smyth, and Washington Counties

Cities of Chesapeake and Suffolk

Prepared by

Virginia Department of Agriculture & Consumer Services

Office of Plant Industry Services

In Cooperation with

United States Department of Agriculture

Forest Service

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Table of Contents

1.0 PURPOSE OF AND NEED FOR ACTION

1.1 Proposed Action

As part of the national strategy to slow the spread (STS) of the gypsy moth, *Lymantria dispar* (L.), the Virginia Department of Agriculture and Consumer Services (VDACS), Office of Plant Industry Services, in cooperation United States Department of Agriculture-Forest Service (FS) is proposing to treat 3 localized infestations on federal[1], state, and private lands in Russell, Smyth, and Washington counties and the cites of Chesapeake & Suffolk (Table 1). The proposed action for this project is Alternative 2: the use of mating disruption on three sites totaling 52,616 acres. Maps of the proposed treatment sites are in Appendix C.

Table 1. Sites proposed for treatment in 2017 under the proposed action.

Site Name	Treatment & Dose	No. of Applications	Acres	County(s)
Clinch Mountain	MD at 6 g ai/ac	1	30,798	Russell, Smyth, Washington
Corapeake	MD at 6 g ai/ac	1	19,597	Suffolk City
Lake Drummond	MD at 6 g ai/ac	1	2,221	Chesapeake City
Total Treatment Acres Proposed			**52,616**	

(MD=Mating Disruption)

Private aerial application contractors under the supervision of FS and VDACS personnel would conduct the treatments using aircraft designed and built for the mission. The proposed treatments would be scheduled to coincide with the most susceptible stage of the gypsy moth. Adult moths would be targeted with mating disruption in late May or early June in the coastal region and mid-June in the mountain region just prior to the start of adult male moth flight. The treatments would be followed by monitoring with pheromone traps in 2017 and 2018 to determine treatment effectiveness.

1.2 Need for Action

The gypsy moth (*Lymantria dispar*) is not native to the United States; therefore, it lacks many of the natural controls from its native range. Although oaks are the preferred host, gypsy moth caterpillars feed on the foliage of many plants and many other tree species are defoliated when oaks are not available. When gypsy moth populations increase to the level where defoliation is widespread, the gypsy moth larvae can cause a substantial public nuisance, affect human health, reduce tree growth, cause branch dieback and tree mortality.

Since the gypsy moth was accidentally introduced into Massachusetts in 1869, it has steadily expanded its range west and southward and is now established in about one-third of the susceptible habitat in the U.S. The Gypsy Moth Slow-the-Spread (STS) pilot project (1993-1999) demonstrated that the rate of spread of the gypsy moth could be reduced by at least 60% through comprehensive monitoring and management of recently established populations in the transition area (Liebhold et al 1992, Sharov et al. 1998). The benefits of reducing the rate of spread of gypsy moth exceed the costs of treatment and monitoring by a ratio greater than three

[1] Federal lands proposed for treatment are located in the Great Dismal Swamp Wildlife Refuge that is managed by the United States Fish and Wildlife Service. See https://www.fws.gov/refuge/great_dismal_swamp/ for additional information.

to one (Leuschner et al. 1996, Mayo et al. 2003, Sills 2008).

The STS pilot project shifted to operational status in 2000 and became part of the national strategy for managing the gypsy moth (Sharov et al. 2002b). STS is implemented in a band approximately 65 miles wide that is adjacent to the infested area. This band is called the transition area because gypsy moth populations located within it are transitioning from isolated to continuous. These populations are characterized as recently established, spatially disjunct, and typically relatively low population density. The transition area covers approximately 80,000 square miles stretching across 11 states from the eastern portion of Minnesota to the coast of North Carolina.

Areas proposed for treatment as part of STS are selected with the aid of a decision support system (http://www.gmsts.org). The STS decision support system uses data from about 60,000 pheromone traps that are deployed in the transition area annually to select, analyze and prioritize dozens of infestations that are proposed for treatment nationally each year. The three infestations proposed for treatment in this environmental assessment (EA) are located in the STS area in Virginia.

VDACS is dedicated to protecting urban and rural forested habitats from damage by the gypsy moth and to enforcing interstate and intrastate quarantines to protect areas not currently infested by this exotic forest pest.

1.3 Project Objective

The objective of this cooperative project is to slow the spread of the gypsy moth populations by eliminating reproducing populations from the proposed treatment sites. Over the past fifteen years in Virginia, this objective has been successfully met, while implementing the STS (see Tobin & Blackburn (2007) and Gypsy Moth Slow the Spread Foundation, Inc., http:// www.gmsts.org.

1.4 Relationship to Other Decisions

This EA is tiered to the 2012 Final Supplemental Environmental Impact Statement (USDA-FSEIS, 2012) titled "Gypsy Moth Management in the United States: a cooperative approach". The FSEIS supplements the 1995 Final Environmental Impact Statement, which describes alternatives for managing gypsy moth populations nationwide and includes an analysis of environmental effects, and human health risks associated with each alternative and treatments that could be used. The FSEIS also adds new treatment options not available in 1996 providing more flexibility in conducting suppression, eradication, and slow-the-spread projects as well as providing updated information on the analyses of human health and non-target impacts of all the treatment options. The 2012 FSEIS Record of Decision (ROD) maintains the selected alternative from the 1995 FEIS, which calls for implementing a suppression strategy in the generally infested area to reduce damage caused by outbreaks of the insect; implementing an eradication strategy in the uninfested area to prevent establishment of isolated infestations of the insect; and implementing a slow the spread strategy in the transition area to slow the rate of spread of the insect from the generally infested area.

The 2012 FSEIS ROD also adds the chemical Tebufenozide as a gypsy moth treatment option and provides a protocol for incorporating any new treatment options in the future. While the new treatment option provided by the 2012 ROD does not relate to this site-specific analysis, the updated risk assessment for mating disruption is incorporated by reference.

Implementation requires that site-specific environmental analysis be conducted and public input

gathered to identify and consider local issues before any Federal or cooperative suppression, eradication, or slow-the-spread projects are authorized and implemented. As part of the analyses conducted for the FSEIS, human health and ecological risk assessments were prepared (USDA 2012a, Volumes III and IV). These site-specific analyses are tiered to the programmatic FSEIS and documented in accordance with Agency National Environmental Policy Act (NEPA) implementing procedures (USDA 2012b, ROD, p. 2). The purpose of tiering is to eliminate repetitive discussions of the issues addressed in the FSEIS (40 CFR, 1502.20 and 1508.28 in Council on Environmental Quality, 1992). Thus, throughout this EA, many references to material in the FSEIS are made. This allows the EA to focus on issues specific to the action proposed by the VDACS.

The 2012 FSEIS provides for Federal funding and technical assistance by the USDA-FS to state agencies for conducting gypsy moth STS projects using an Integrated Pest Management (IPM) approach if site-specific analysis indicates the need to do so. The 2012 FSEIS also provides (1) standard operating procedures for spray projects and associated public involvement activities, and (2) an analysis of potential environmental and human health-related effects. A copy of the 2012 FSEIS is available upon request from the VDACS office listed on the title page of this EA.

1.5 Scope of the Analysis

This EA fulfills the state and site-specific planning necessary for the proposed 2017 VDACS STS project on state and private lands and provides the USDA-FS with the necessary information to make a decision on the proposed project. This EA presents management strategies that are designed to meet the objectives of the STS project on the proposed treatment sites listed in Table 1 of this EA. It does not relate to other STS, suppression or eradication treatment activities outside the scope of this EA conducted by the USDA-FS or VDACS on other public and private Virginia lands. Those activities are covered by other EAs and decisions. This EA does not prevent private citizens from managing gypsy moth on their own, nor does it constrain their control activities. The only constraints on private citizen's actions are those imposed by Federal and State laws, local ordinances, or specific insecticide labeling.

1.6 Decisions to be Made and Responsible Officials

State laws in Virginia authorize the Commissioner of VDACS to control quarantined and dangerously destructive plant pests (Appendix A). Every year, VDACS designates areas for gypsy moth STS treatments and petitions the USDA-FS (State and Private Forestry) for cost-share funds to treat designated areas. Authorizing Federal legislation allows the USDA-FS to enter into these cooperative agreements with states to slow the spread of gypsy moth populations (Appendix A). Each year, the USDA-FS assists VDACS (the applicants) in preparing the EA for the requested cost-share funding.

The decision to be made by the USDA-FS based on the information provided by VDACS and included in this EA is whether or not to fund the cost share STS project with VDACS to treat a total of 52,616 acres as proposed or take no action.

The responsible official for the decision to fund treatment on non-federal lands in Virginia is Mr. Tony Tooke, Regional Forester, Southern Region, USDA-FS, 1720 Peachtree Road, NW, Atlanta, Georgia, 30367.

The responsible official for the implementation of the cooperative project in Virginia is Ms. Debra Martin, Program Manager, Office of Plant Industry Services, Virginia Department of

Agriculture & Consumer Services, 102 Governor Street, Richmond VA 23018.

If no EIS is required and funding is approved, the finding and decision will be documented in a Decision Notice (DN) and Finding of No Significant Impact (FONSI). Following the DN and FONSI, action could be implemented as early as late May 2017. For additional information on the 2017 VDACS STS Project contact the VDACS office listed on the title page of this EA.

1.7 Summary of Public Involvement and Notification

NEPA requires public involvement and notification for all projects utilizing federal funds that may have an effect on the human environment (40 CFR, 1506.6 in Council of Environmental Quality 1992).

The Virginia Cooperative Gypsy Moth Program has been seeking public input since 1990. During that time, numerous public meetings have been held in areas of the state where treatments have been conducted. These meetings have been scheduled with public officials and the public.

In December of 2016, letters were mailed to landowners within and around the proposed treatment sites notifying them of the proposed treatments on or near their property. The letter also announced dates, times, and locations, of open house public information meetings regarding the proposed treatments. Meetings were held in Belfast (January 10, 2017), Suffolk (January 11, 2017) and Abingdon (January 17, 2017). VDACS personnel were available at these meeting to make presentations and provide information with a variety of citizens, agencies and associations.

Other agencies consulted include the US Fish & Wildlife Service (FWS), Virginia Department of Game & Inland Fisheries (VDGIF), Virginia Department of Forestry (VDOF), Virginia Department Conservation Recreation (VDCR), Natural Heritage, and Virginia Department of Historic Resources (VDHR). A permit to conduct treatment activities in the Great Dismal Swamp National Wildlife Refuge was requested (and received) from the FWS.

Landowners within and including a ½ mile buffer of the treatment area also receive a second notification letter before spraying begins. Timing of the mailing would coincide with anticipated start dates of the type of treatment proposed.

Packets of information about the gypsy moth STS project and the proposed treatment were mailed to county administrators and other associated local officials during the scoping process. County administrators and law enforcement officials would be notified before the start of treatments.

Information gathered during the 2017 public meetings and from public meetings held in previous years, along with material collected from resource professionals, industry, and environmental groups was used to identify potential issues and concerns related to this project. All public involvement information is located in the project record.

1.8 Issues

Review of public comments did not identify any unresolved conflicts associated with the proposed action.

1.9 Other Questions

The following discussions address questions that have been raised during scoping, either

this year or on past projects.

1) The effect of aerial application of mating disruptants on human health was not identified as an issue because a detailed analysis of the risks posed to humans by mating disruption, called Human Health Risk Assessment, was conducted (USDA 2012a, Vol. III, App. H, pp. 3-1 to 3-10). The toxicity of insect pheromones to mammals is relatively low, and their activity is target-specific. Therefore, the EPA does not expect effects on humans and requires less rigorous testing of these products than of conventional insecticides. Once absorbed through direct contact, disparlure is very persistent in humans, and individuals exposed to disparlure may attract adult male moths for prolonged periods of time. This persistence is viewed as a nuisance and not a health risk (USDA 2012a, Vol. III, App. H, p. 3-9). In acute toxicity tests, disparlure was not toxic to mammals, birds, or fish (USDA 2012a, Vol. III, App. H, pp. 4-1 to 4-8) therefore no effects to human health are anticipated.

2) The impact of aerial application on cultural resources is not an issue because no soil-disturbing actions are proposed; therefore, no effects on architectural, historic, or archaeological sites are possible (Appendix D, letter from VDHR, dated February 16, 2017.

3) The impact of aerial application on the physical characteristics of wetlands and flood plains (compliance with Executive Orders 11988 and 11990) is not an issue because no soil- disturbing actions are proposed; therefore, no effects on the physical characteristics of these areas are anticipated.

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 Discussion of Alternatives

The 2012 FSEIS, to which this document is tiered, maintains the alternative from the 1995 FEIS that includes three broad strategies (suppression, eradication and slow the spread) developed to meet the needs of a national management program for gypsy moth. Therefore, the USFS and APHIS can assist in funding and carrying out eradication, suppression, and slow-the-spread projects. The locations of the infestations in this proposal are in the transition area; thus slow the spread is the objective.

A range of treatment options are available to meet the objectives of each of the strategies described in the FSEIS. Seven treatment options are available for use, alone or in combination. The treatment tactics and their effects on human health and safety, ecological effects, and the environmental consequences are discussed in Vol. II, Chapter 4 of the FSEIS. The treatment options include 1) Bacillus thuringiensis var. kurstaki (*Btk*), 2) the gypsy moth virus Gypchek®, 3) the insect growth regulator, diflubenzuron (Dimilin®), 4) mass trapping, 5) mating disruption, 6) sterile insect release and 7) tebufenozide, another insect growth regulator (Mimic®)

The particular treatment or combination of treatments to be used in any project is a decision made at the project level in accordance with NEPA. The VDACS and FS considered different alternatives (treatment options) including the no action alternative, to meet the 2017 STS project objectives. The following sections describe the alternatives (treatment options) considered for use in this site-specific proposal to slow the spread of the gypsy moth in Virginia.

2.2 Alternatives Eliminated from Further Consideration

The following treatment alternatives that are available were eliminated from consideration:

Diflubenzuron (Dimilin). The label for Dimilin prohibits its use over wetlands and directly to water. Treatment sites contain ponds, lakes, marsh, rivers and/or wetlands. Therefore, Dimilin is not considered for this project. In future projects, it may be evaluated for use.

Gypchek. Gypchek has proven effective at reducing gypsy moth at higher population levels. However, Gypchek is a costly alternative with a very limited supply and is only used in environmentally sensitive areas, generally those with threatened or endangered lepidopterans, which could be impacted by other non-target specific treatment options (USDA 2012a, Vol. II, App. A, pp. 3 to 4). In future projects, it may be evaluated for use.

Btk. *Btk* is a Lepidoptera (moth and butterfly family) specific insecticide and is very effective when used as part of the STS strategy to reduce or eradicate low-density populations of the gypsy moth. However, the STS project is committed to using the most environmentally sensitive tactic that will meet project objectives. In this case, the project objectives can be met using a gypsy moth specific tactic (mating disruption) on the treatment blocks. *Btk* would affect a wider range of moth and butterfly species than mating disruption (USDA 2012a, Vol. II, Ch. 4, pp. 13 to 14). Therefore the use of *Btk* was not considered in detail for this project.

Mass trapping. Mass trapping uses an intensive grid of traps to limit reproduction. It is typically used on small gypsy moth infestations of 100 acres or less (USDA 2012a Vol. II, App. A, p.5),

and generally uses 9 or more traps per acre. This approach is very labor intensive, especially over large areas. Mass trapping has proven capable of eliminating or reducing gypsy moth at very low population levels in small sites. The use of mass trapping can meet the project objective of slowing the rate of spread of gypsy moth at small treatment sites. Due to the moth catches and the size of the areas proposed for treatment, mass trapping is not considered for this project.

Sterile insect release. Sterile insect release can be done for elimination of isolated gypsy moth populations. There are obstacles using this alternative - the limited release period; need to synchronize production of mass quantities of sterile pupae; and the logistical difficulties of repeated release over a 4-week period (USDA 2012a, Vol. II, App. A, p.7). This treatment alternative is currently not available, and it has not been used since 1992 (USDA 2012a, Vol. II, App. A, p. 8). Given these obstacles, sterile insect release is not considered for this project.

Tebufenozide (Mimic). The label for Mimic prohibits its use over wetlands and water. Ponds, lakes, marshes, rivers and/or wetlands are present in some treatment areas. Therefore, Mimic is not considered for this project. In future projects, it may be evaluated for use.

2.3 Alternatives Considered in Detail

2.3.1 Alternative 1 - No action.

Under this alternative the USDA-FS would not fund this STS project to slow the spread of gypsy moth on private and public lands in Virginia. No treatments would occur on the three sites.

2.3.2 Alternative 2 – Mating disruption on 52,616 acres (proposed action).

Under this alternative the USDA-FS would cost-share (fund) with the VDACS to treat a total of 52,616 acres (3 sites) located on federal, state, and private lands. One of these sites are located on the mountains (valley and ridge region) of southwest Virginia County in Russell, Smyth, and Washington County. Two of the sites are located in the coastal plain (tidewater region) of Virginia in the Cities of Suffolk and Chesapeake.

Mating disruption is a target specific control tactic that is effective against very low density populations of the gypsy moth (generally less than 10 egg masses per acre). This gypsy moth-specific treatment is applied just prior to the emergence of adult moths. Mating disruptants consist of controlled release dispensers containing the gypsy moth pheromone (disparlure) as the active ingredient. In nature, pheromone is produced and emitted by female gypsy moths to communicate their readiness to mate. Males use special receptors found in their antennae to follow a pheromone trail to its source, mating occurs and eggs are laid. When a controlled-release pheromone formulation is applied, the treated area is saturated with pheromone during the 6 to 8-week period when adult gypsy moths are active. The invisible cloud of applied pheromone disrupts the normal communication between the sexes and prevents the males from finding and mating with the flightless females. Mating disruption is only effective in very low population densities because the chance of random encounters between the sexes is high in denser populations (Reardon et al 1998, Sharov et al 2002a).

There are three products that could be used for this project: Disrupt II®, Disrupt Bio-Flakes GM® and SPLAT-GMO®, all of which are applied using aircraft. SPLAT-GMO® (ISCA Technologies, Riverside California) is a biodegradable amorphous polymer matrix formulation, which is certified for organic production that releases the pheromone over a period of 11 weeks.

It is 13% active ingredient by weight; the remaining ingredients consist of waxes, water, emulsifiers, oils, and preservatives. Disrupt II® and Disrupt Bio-Flake GM® are both made by Hercon Environmental (Emigsville, PA). Disrupt II® is a plastic laminate formulation with the pheromone (17.9% active ingredient by weight) sandwiched between two outer layers of PVC plastic. The laminate is chopped into small flakes, which are applied with a sticking agent (MicroTac, Hercon Environmental, Emigsville, PA), and the pheromone is slowly released through the edges of the small flakes over a period of several months. Disrupt Bio-Flake GM® is a biodegradable polymer formulation with the pheromone (12.5% active ingredient by weight) incorporated into the polymer matrix. The Bio-Flakes are approximately 1/8" x 1/8" In size. They are applied with the same sticking agent used with Disrupt II® and the pheromone is slowly released over a period of several months after application.

This treatment option uses a single application of Disrupt II®, Disrupt Bio-Flake GM® or SPLAT-GMO®. The product selected for use would be applied using aircraft just prior to the emergence of the adult moths. In Virginia the application could begin as early as late May or as late as mid-June depending on location of the proposed treatment block and local weather conditions that affect the development schedule of the gypsy moth.

2.4 Treatment Design Criteria

The following precautionary measures would apply to the action alternative to enhance the effectiveness of the treatment and to reduce the risk of off-site impacts. Specific safety procedures and guidelines are presented in the Project Aviation Management & Safety Plan, copies of which are available from the address found on the cover page of this EA.

- Local safety authorities would be notified in person or by phone calls.
- Equipment and pesticides would be secured 24 hours per day.
- Employees of state and federal agencies monitoring the treatment would receive training on treatment methods to be able to answer questions from the public.
- Public notification would contain information pertinent to the specific treatment, treatment boundaries and treatment schedule,
- Open water would not be treated as specified in label directions,
- Insecticides would be applied according to label directions; all label warnings and restrictions would be carefully followed by the applicator.
- Pilots would have radio communication with each other and with the base of operations to assure compliance with safety requirements and application constraints.
- Application aircraft would be calibrated for accurate application of treatment material.
- Applications would be timed so the most susceptible gypsy moth stage is targeted.
- Weather would be monitored during treatment to assure accurate deposition of the treatment material and to minimize drift, especially into sensitive areas. During the treatments, ground observers and/or aerial observers would monitor deposition of the pesticide.

2.5 Monitoring

During the treatments, ground and/or aerial observers would monitor the application for accuracy within the site perimeters, swath width, and drift. Downloading of DGPS information from application aircraft to a computer at the base of operations would also be conducted to help

determine swath widths, spray-on and spray-off, acreage treated, and aircraft altitude during spray runs.

2.6 Comparative Summary of Alternatives

Table 2. Summary of Environmental Consequences for Alternatives by Issue.

	Alternative 1 No Action	Alternative 2 Mating Disruption
Effects on spread of the gypsy moth	- Does not reduce spread	- Reduces spread by at least 60%
Effects on soil, water or forest condition	- No direct effects on water quality. -Indirect effects are expected to be short-lived and slight. - Moderate to severe impacts from defoliation (reduced tree growth, limb dieback, tree mortality and a reduction in oak component) would occur within 3 to 5 years.	- No direct or indirect effects on water quality - Delays impacts of defoliation by an additional 10 to 20 years,
Effects on non-target organisms	-No direct effects on non-target organisms -Indirect effects of defoliation are variable but most are not adverse. Species requiring shade would be most at risk.	- Mating disruption would have no direct or indirect effects on species (including bees and other pollinators) other than the gypsy moth.
Effects on federally protected species	-No direct or indirect adverse impacts are anticipated as a result of no action	- No direct or indirect adverse impacts are anticipated as a result of treatment with mating disruption.

3.0 AFFECTED ENVIRONMENT

3.1 Description of the Proposed Treatment Sites

The purpose of this section is to present baseline information on the existing environment for comparing environmental consequences. Three sites totaling 52,616 acres are proposed for treatment under the proposed action - alternative 2. One of the sites is located in the mountains of southwest Virginia at the intersection of Russell, Smyth, & Washington County. The remaining two sites are located in the coastal plain of Virginia in the cities of Suffolk and Chesapeake.

Agriculture, forestry, tourism and recreation provide the major sources of employment and tax revenue in these regions. Maps of the proposed treatment sites can be found in Appendix C. A number of state or federally protected plants, terrestrial invertebrates, mammals, birds, freshwater fishes, and mussels are known to occur or may occur within or near the proposed treatment blocks. A complete list of these species can be found in Appendix D (US- FWS project review and e-mail response dated March 21, 2017, letter from VDGIF dated February 7, 2017, letter from DCR dated January 11, 2017 and letter from VDHR dated February 16, 2017). Features unique to each site are described below.

Mountain (Valley & Ridge) Region Site

Clinch Mountain: This treatment site in Russell, Smyth, & Washington County covers 30,798 acres. The site spans Clinch Mountain and includes portions of Corn Valley, Poor Valley and the Clinch Mountain Wildlife Management Area. In addition the Redrock Mountains and the Channels Natural Area Preserves are within 2 miles of this proposed treatment site. Elevations in this site range from 1,700 to 4,500 feet. Tumbling Creek is located within this treatment site and has been designated a wild or stockable trout stream. The Holston River flows through the southeast corner of this site. Land uses are predominantly agriculture and recreation with scattered rural residences.

VA DCR or VDGIF has records for the following species of concern from within or near the proposed treatment site

- The Holston River is a Threatened and Endangered Species Water due to the presence of two Federally protected species (spotfin chubs - a Threatened fish and Shiny pigtoe - an Endangered freshwater mussel) and two State protected species (Longhead darter – a State protected fish and the Purple lilliput – a State protected freshwater mussel).
- State Endangered tri-color and little brown bats (mammal) - major hibernacula for these two bats are near this site.

Coastal Plain (Tidewater) Region Sites

Corapeake: This 19,597-acre site in the City of Suffolk is east of the community of Whaleville and includes a section of the Great Dismal Swamp National Wildlife Refuge. The site extends from Cypress Swamp south to the North Carolina state line. The terrain is flat with elevations ranging from zero to 50 feet. State endangered canebrake rattlesnake and state endangered Rafinesque's eastern big-eared bats have been documented in this site. This site has wetlands, recreation sites, agricultural fields, and rural residences.

Lake Drummond: This 2,221-acre site in the City of Chesapeake is on the eastern edge of Lake Drummond. Most of the treatment area is within the Great Dismal Swamp National Wildlife Refuge with a small section of agricultural land.

VA DCR or VDGIF has records for the following species of concern from within or near the proposed treatment site

- Federally Threatened northern long-eared bats (mammals) – these bats have been documented in both tidewater sites.
- State Endangered canebrake rattlesnakes (reptile) – these snakes have been documented within the Corapeake site.
- State Endangered Rafinesque's big-eared bats (mammal) – these bats have been documented within the Corapeake site.

3.2 Non-target Organisms

Non-target organisms include all species except the target pest (gypsy moth) that live in or near treatment sites. Although they are not the targets of treatment activities, some may be impacted directly or indirectly by the proposed treatments.

Non-target organisms that may be found in or near the treatment vicinity include:

- Vascular and non-vascular plants such as trees, shrubs, ferns and mosses
- Vertebrates:
    - Outdoor pets such as cats, dogs or rabbits
    - Livestock such as cows, horses, pigs or chickens
    - Wild birds such as such as crows, blue jays, sparrows, warblers, wrens, woodpeckers, pheasants, quail, grouse, turkeys, hawks, eagles, herons and owls.
    - Small and large wild mammals such as bats (including the Federal and State Threatened bats documented by the VDGIF and VDCR letters in App D), mice, rabbits, foxes, raccoons, squirrels, bear and deer.
    - Native trout and other species of game and non-game fish in streams and rivers. Including the federally Threatened spotfin chub documented by VDGIF and VDCR letters (App. D)
    - Many species of reptiles and amphibians such as salamanders, frogs, turtles and snakes.
- Invertebrates such as moths and butterflies, natural enemies of the gypsy moth, spiders, beetles, earthworms, centipedes, crayfish and freshwater mussels.

3.3 Federally Protected Species

Informal consultation with FWS revealed the occurrence of several dozen federally protected species in the counties where treatments are proposed. Further consultation with VDGIF and VDCR, Division of Natural Heritage, revealed a much smaller list of federally protected species that are actually associated with the proposed treatment sites. The Federally Threatened northern long-eared bat is present in the two tidewater sites. The single mountain site is adjacent to the North Fork of the Holston River, which has been designated as a threatened and endangered species water due to the presence of a federally threatened fish (spotfin chub) and potential habitat for a Federally protected freshwater mussel (Shiny pigtoe).

A list of the federally protected species located in the counties where treatments are proposed can be found in Appendix D (FWS response) along with the Species Conclusion Tables submitted by VDACS.

Appendix D also contains the responses from VDGIF and VDCR, which documented the occurrence of several species protected by the State as well as the federally protected species.

4.0 ENVIRONMENTAL CONSEQUENCES

This section is the scientific and analytic basis for the comparison of alternatives. It describes the probable consequences (effects) of each alternative. Environmental consequences are summarized in Table 2 (Section 2.6) for each combination of the alternatives and issues.

4.1 Impacts of Alternative 1 – No Action

Under this alternative, no action would be taken to control the localized gypsy moth infestations. Spread rates through Virginia and into neighboring states would increase to historical levels of 13 miles per year. Gypsy moth populations would increase to outbreak within 3 to 5 years in and near the project site depending on availability of hosts. Moderate to heavy defoliation is anticipated where host type is abundant whereas light to moderate defoliation is anticipated where host type is less abundant.

Direct, Indirect and Cumulative Effects on Forest Condition and Soils: Under this alternative no insecticides would be used so there would be no direct effect of treatment on soils. Defoliation may cause an increase in the seasonal temperature of soil and leaf litter, and increased exposure to sunlight, resulting in short-term increases in biological productivity on the forest floor, especially for plants that require abundant sunlight. Any changes in microclimate, soil productivity and fertility are expected to be short-lived (USDA 2012a, Vol. II, Ch. 4, p.7).

The effects of defoliation on the forest vary based upon the pre-existing condition of the forest, current stress, abundance of gypsy moth preferred host-type, and the severity and longevity of the outbreak. Defoliation would be most frequent and severe among preferred hosts of the gypsy moth such as oak. On average, trees would experience growth loss proportional to the levels of defoliation and tree mortality following defoliation would be variable. Based on data from previous outbreaks, stand losses from tree mortality can be expected to average 20-35 percent where preferred hosts are common and 5-20% where preferred hosts are less dominant. Hard mast production by oaks would decline after defoliation, but an increase in soft mast would partially compensate for the hard mast reduction. Effects from repeated defoliation can result in a shift in stand structure to a more one-storied stand and a shift in stand composition from gypsy moth preferred hosts such as oak to less preferred hosts. Red maple, sweetgum and pines would become more prevalent in Virginia forests as gypsy moths focus their feeding on oaks. The resulting forest would be less susceptible to feeding by the gypsy moth. Further discussion of gypsy moth and its impact on forest conditions can be found in the FSEIS (USDA 2012a, Vol. II, Ch. 4, pp 4 to 7, and Vol. IV, App. L, pp 4 to 6).

A change in the forest composition and appearance can be expected following defoliation. Some positive effects include an increase in the number of snags for cavity nesters, more deer browse and soft mast for other wildlife, more nesting sites in snags for bald eagles, and a reduction of the favored host type for the gypsy moth. Negative effects include unfavorable aesthetic and nuisance impact to recreation sites, decline in property value, timber loss, an increase in the number of hazardous dead trees and the cost to remove these trees and rehabilitate these areas, and an increase in fuel levels due to an increase in the number of dead trees in the forests resulting in a fire hazard to private lands and homes.

There are no ongoing or reasonably foreseeable projects on private, County, State or National Forest System lands that would measurably affect infestation levels.

Direct, Indirect and Cumulative Effects on Water Quality: Under this alternative no insecticides would be used so there would be no direct effect of treatment on water quality. This alternative would result in defoliation in and near the site within 3 to 5 years. Increases in water yield, changes

in water quality such as elevated temperatures and reduced oxygen levels, could occur following defoliation but are expected to be minor and short-lived (USDA 2012a, Vol. II, Ch. 4, pp 6 and 7), even in the event of multiple consecutive defoliations. The federally protected fish and freshwater mussels that may occur in the streams in the mountain site are not likely to be adversely affected by potential changes in water quality.

Direct, Indirect and Cumulative Effects on Non-target Organisms: Under this alternative no treatments would be made so there would be no direct adverse impacts to non-target organisms. Indirect effects of defoliation on non-target organisms are variable, but most are not adverse. Impacts on a larger scale (national, regional, or state) are subtle, gradual, and may be noticeable only after many years or decades (USDA 2012a, Vol. II, Ch. 4, pp. 7 through 10 and Vol. IV, App L).

Gypsy moth defoliation has varying effects on vertebrates. Defoliation is likely to be beneficial to some birds because defoliation appears to have positive impacts, both short and long-term, on most non-game bird species. The effect of defoliation on bats, including the Federal and State protected bats that may occur in or near the sites, is not well known. Deer, bear and turkey do not appear to be adversely affected by defoliation, acorn crop failure, or tree mortality. The gray squirrel and the white-footed mouse (an important predator of the gypsy moth) are possibly the most adversely affected due to their dependence on acorn crops. Tree mortality following defoliation would increase the availability of habitat for species that use standing or downed dead trees, such as eagles. Surface habitats of reptiles, including the Canebreak rattlesnake, and amphibians may be affected in the short term as a result of increased sunlight, but in the long-term reptiles and amphibians are expected to benefit from more dead and downed trees.

Defoliation is not likely to have adverse impacts on non-target fish, including the Spotfin chub, or other aquatic vertebrates. Fish requiring cold water habitats such as trout may be indirectly affected by increased pH, elevations in water temperature and reduced oxygen levels during defoliation but this is expected to be minor and short-lived. While no data are available on bivalves, defoliation is not believed to pose a hazard to these organism, including the freshwater mussels that inhabit mountain streams.

Gypsy moth defoliation has varying effects on other invertebrates. In the short term, natural enemies of the gypsy moth such as the nucleopolyhedrosis virus, parasitoids and entomaphagous fungus would increase as the gypsy moth population increases. Gypsy moth defoliation may occasionally result in reduced abundance or diversity of other terrestrial arthropods, especially species that require oak dominated forest canopies, but in the long run, a more diverse arthropod community can be expected.

The most common response to gaps in the forest canopy created by defoliation and tree mortality is increased growth and density of sun loving woody and herbaceous plants, which in turn increases competition for the shade loving plants. Sun-loving plants would benefit from defoliation, but a shade loving species could be adversely impacted by the increased levels of sunlight following defoliation.

Direct, Indirect and Cumulative Effects on Federally Listed Species: Under this alternative, no direct effects to federally listed species would occur because no action would be taken to control the gypsy moth. Indirect or cumulative effects from gypsy moth defoliation (increased sunlight) are likely to be short-term and subtle and are unlikely to adversely affect the federally protected bats, fish or mussels that have been documented in the project area.

4.2 Impacts of Alternative 2 - Use of Mating Disruption (Proposed Action)

Under this alternative, mating disruption would be used on 52,616 acres, as outlined in Table 1, section 1.1. This alternative would delay defoliation and reduce the risk of spread at all sites. This approach maximizes the potential for treatment success while also making effective use of gypsy moth specific tactics to protect non-target organisms including federally protected species.

Direct, Indirect and Cumulative Effects on Forest Condition and Soils: This action would not involve any ground-disturbing activities because the treatments would be applied by aircraft. Mating disruption formulations (plastic flakes or waxy emulsion), which serve as the controlled-release dispensers for the pheromone and which are applied at a rate of less than ¾ cup per acre, may persist in the environment for years. Despite this, mating disruption is not likely to cause changes in forest condition, microclimate, or soil productivity and fertility. Because the proposed treatments do not include soil disturbing activities, are limited in scope and do not overlap with past treatments, and because there are no ongoing or reasonably foreseeable projects on private, County, State, National Forest System or other federal lands that would measurably affect forest condition or soils, no cumulative impacts are anticipated.

In the short term (5 to 10 years), this alternative would maintain forest condition, prevent changes in microclimate and maintain mast production (USDA 2012a, Vol. II, Ch. 4, pp. 10 and 19). In the long-term however (10 to 30 years), gypsy moth populations would become permanently established in the area. At this point, some local populations would reach levels where defoliation could be light to heavy, with the same anticipated effects as described in the no action alternative.

Direct, Indirect and Cumulative Effects on Water Quality: Although the products proposed for use do not directly affect water quality (USDA 2012a, Vol. II, Ch. 4, pp. 14 and 20), they would not be applied over open water in compliance with the product labels, project mitigation measures and VDACS policy.

During application of mating disruptants, more than 90% of the product would be intercepted by and adhere to vegetation, where it would remain until leaf fall. At this point, the product would have released at least 60% of its disparlure. The risk of the remaining disparlure leaching into surface or groundwater via translocation after leaf fall is minimal because disparlure is insoluble in water. In laboratory experiments, one of two mating disruption products, Disrupt II, was submerged in water and vigorously agitated for 24 hours. Under these conditions, less than 0.04% of the active ingredient (disparlure) contained in the Disrupt II leached into water (pers. comm. with Hercon). Therefore, the proposed treatment using mating disruption is not likely to cause changes in water quality. No cumulative effects are anticipated due to the target specific nature of the treatment.

Direct, Indirect and Cumulative Effects on Non-Target Organisms: This action would not have any direct, adverse impacts on non-target organisms.

Mating disruption may indirectly help to maintain existing forest conditions, water quality, microclimate, and soil condition (USDA 2012a, Vol. II, Ch. 4, p. 19) by delaying gypsy moth population increases and subsequent defoliation. Mating disruption is considered specific to gypsy moth and is not known to cause impacts to non-target organisms (USDA 2012a, Vol. II, Ch. 4, pp. 19 to 20). Like other insect pheromones, disparlure is generally regarded as nontoxic to mammals, and no adverse effects are expected from exposure (USDA 2012a, Vol. II, Ch. 4, p. 19). The ecological risk assessment states that disparlure, the active ingredient used in mating disruptant products for gypsy moth, has a very low toxicity to mammals and birds (USDA 2012a, Vol. III, App. H, pp. 4-1 to 4-2). In addition, it is not likely to cause toxic effects in aquatic species (USDA 2012a, Vol. III, App. H, pp. 4-3 to 4-5). Based on the results of the available data, the toxicity

profile of disparlure in terrestrial animals does not suggest that disparlure is likely to cause adverse effects at plausible levels of exposure. Similarly, disparlure is not likely to cause any toxic effects in aquatic species at the limit of solubility of disparlure in water. Thus, under normal conditions of exposure, no hazard to aquatic species can be identified (USDA 2012a, Vol. III, App. H, p. xi).

Disparlure is a pheromone component for some other species in the genus *Lymantria* (USDA 2012a, Vol. III, App. H, pp. 2-1 to 2.2), and could disrupt mating in nun moth or pink gypsy moth (USDA 2012a, Vol. III, App. H, p. 4-2). But these species are Asian or Eurasian, and are not known to occur in North America. Therefore, there is no basis for asserting that mating disruption using the gypsy moth pheromone would affect other non-target species in North America, specifically native Lepidoptera

There would be no permanent or noticeable effects to non-target species, and thus no likelihood of cumulative effects from the mating disruption treatment combined with any other factors, including past or future treatments, that may affect non-target species (USDA-FSEIS, 2012, pp. 4-20, Volume II).

Effects on Federally Listed Species: No direct, indirect or cumulative impacts to federally listed species or their critical habitats are anticipated under this alternative. The FWS on-line project review process was used to identify the threatened or endangered species or their critical habitats in the vicinity of each proposed treatment site and to assess any potential impacts to federally protected species. Each species identified using the online project review process was listed in a Species Conclusion Table for the site (Appendix D). Conclusions were made based on the presence of habitat and biological requirements of the species.

A letter was submitted to FWS with the lists generated from the on-line project review along with the species conclusion tables documenting the VDACS finding that direct, indirect or cumulative impacts to federally-listed species or their critical habitats would not occur under this alternative because of the specific nature of pheromones. With respect to these findings, and in concurrence with the FWS review and concurrence with the VDACS on-line project review (App. D, FWS E-Mail dated March 21, 2017), as well as the VDGIF and VDCR, Natural Heritage review (letters in App D), I have determined that the proposed project will not adversely affect any federally listed species.

/s/

Date

William A. Carothers
Field Office Representative, Southern Region, FHP

4.3 Climate Change

When analyzed at very large scales (regional or national) climate change has been proposed as a potential cause of range expansion or increased intensity of outbreaks of some forest pests. Likewise improving forest health through control of forest pests at the regional or national scale may have an effect on climate change. The proposed actions would contribute minor amounts of greenhouse gasses through the use of energy to produce and transport the products and through the use of fuel to power the spray aircraft. The proposed actions would also help reduce greenhouse gasses by helping retain carbon capture and storage on 13,129 acres. Treatments would prevent defoliation by gypsy moths and contribute to maintaining tree health, which

would allow for greater absorption of carbon dioxide and other pollutants. The scope of the proposal is limited and effects are essentially imperceptible at the scale of global carbon balance and climate change.

4.4 Irreversible and Irretrievable Commitments of Resources

An irreversible commitment of resources results in the permanent loss of 1) nonrenewable resources, such as minerals or cultural resources; 2) resources that are renewable only over long periods of time, such as soil productivity; or 3) a species (extinction) (USDA 1995, Vol. II, p. 4-93). An irretrievable commitment is one in which a resource product or use is lost for a period while managing for another (USDA 1995, Vol. II, p. 4-93). For this project, no irreversible and irretrievable commitments were identified for either alternative.

5.0 LIST OF PREPARERS

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(540-394-2507)

Donna Leonard
USDA-Forest Service, Forest Health Protection
200 W.T. Weaver Blvd.
Asheville, NC 28804
(828-273-4324)

6.0 LIST OF PERSONS AND AGENCIES CONSULTED

US Fish & Wildlife Service-Virginia Ecological Services
Virginia Department of Conservation & Recreation-Division of Natural Heritage
Virginia Department of Conservation & Recreation-False Cape State Park
Virginia Department of Game & Inland Fisheries-Environmental Services
Virginia Department of Historical Resources

Russell County
Smyth County
Washington County
City of Suffolk
City of Chesapeake

7.1 REFERENCES

Gypsy Moth Slow the Spread Foundation, Inc., http://www.gmsts.org

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Tobin, P.C. and L. M. Blackburn (eds.) 2007. Slow the Spread: A national program to manage the gypsy moth. USDA Forest Service Gen. Tech. Rpt. NRS-6, 109 pp.

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USDA. 1995. Gypsy Moth Management in the United States: A Cooperative Approach. Final Environmental Impact Statement, Vols. I-V. USDA-Forest Service and USDA-APHIS.

USDA. 1996. Gypsy Moth Management in the United States: A Cooperative Approach. Record of Decision. USDA-Forest Service and USDA-APHIS.

USDA. 2012a. Gypsy Moth Management in the United States: A Cooperative Approach. Final Supplemental Environmental Impact Statement, Vols. I – V. USDA-Forest Service and

USDA-APHIS. NA-MB-01-12.

USDA. 2012b. Gypsy Moth Management in the United States: A Cooperative Approach. Record of Decision. USDA-Forest Service and USDA-APHIS.

Appendix A - Summary of Authorizing Laws and Policies

State. Section 3.2-702 of the Virginia Tree and Crop Pests Law authorizes the VDACS Commissioner to undertake pest eradication or suppression efforts. Aerial applicators must comply with the Virginia Pesticide Control Act (Va. Code 3.2.3900 et seq.) to provide safe, efficient and acceptable applications of pesticides. This project will be conducted in accordance with the Virginia Pollutant Discharge Elimination System (VPDES) General Permit for Discharges Resulting from the Application of Pesticides to Surface Waters; permit number VAG87 - Pesticide Discharges. Effective 1-1-2014, expires 12-31-2018.

Federal. Authorization to conduct treatments for gypsy moth infestations is given in the Plant Protection Act of 2000 (7 U.S.C. section 7701 et.seq.).

The Cooperative Forestry Assistance Act of 1978 provides the authority for the USDA FS and state cooperation in management of forest insects and diseases. The law recognizes that the nation's capacity to produce renewable forest resources is significantly dependent on non-federal forestland. The 2008 Farm Bill (P.L. 110-246) reauthorizes the basic charter of the Cooperative Forestry Assistance Act of 1978.

The National Environmental Policy Act (NEPA) of 1969 (P.L. 91-190), 42 USC 4321 et. seq. requires a detailed environmental analysis of any proposed federal action that may affect the human environment. The courts regard federally funded state actions as federal actions.

The Federal Insecticide, Fungicide and Rodenticide Act of 1947, (7 USC 136) as amended, known as FIFRA, requires insecticides used within the United States be registered by the United States Environmental Protection Agency (EPA).

Section 7 of the Endangered Species Act of 1973, as amended (16 USC 1531 et. seq.) prohibits federal actions from jeopardizing the continued existence of federally listed threatened or endangered species or adversely affecting critical habitat of such species.

The FWS manages the Great Dismal Swamp National Wildlife Refuge and must approve all activities. On April 17, 2017 the FWS issued a pesticide use permit with special conditions (G2017-02) approving the aerial spraying of gypsy moth.

USDA Departmental Gypsy Moth Policy (USDA 2009) assigns the USFS and APHIS responsibility to assist states in protecting non-federal lands from gypsy moth damage.

Appendix B - Concerns or Questions from Public Outreach

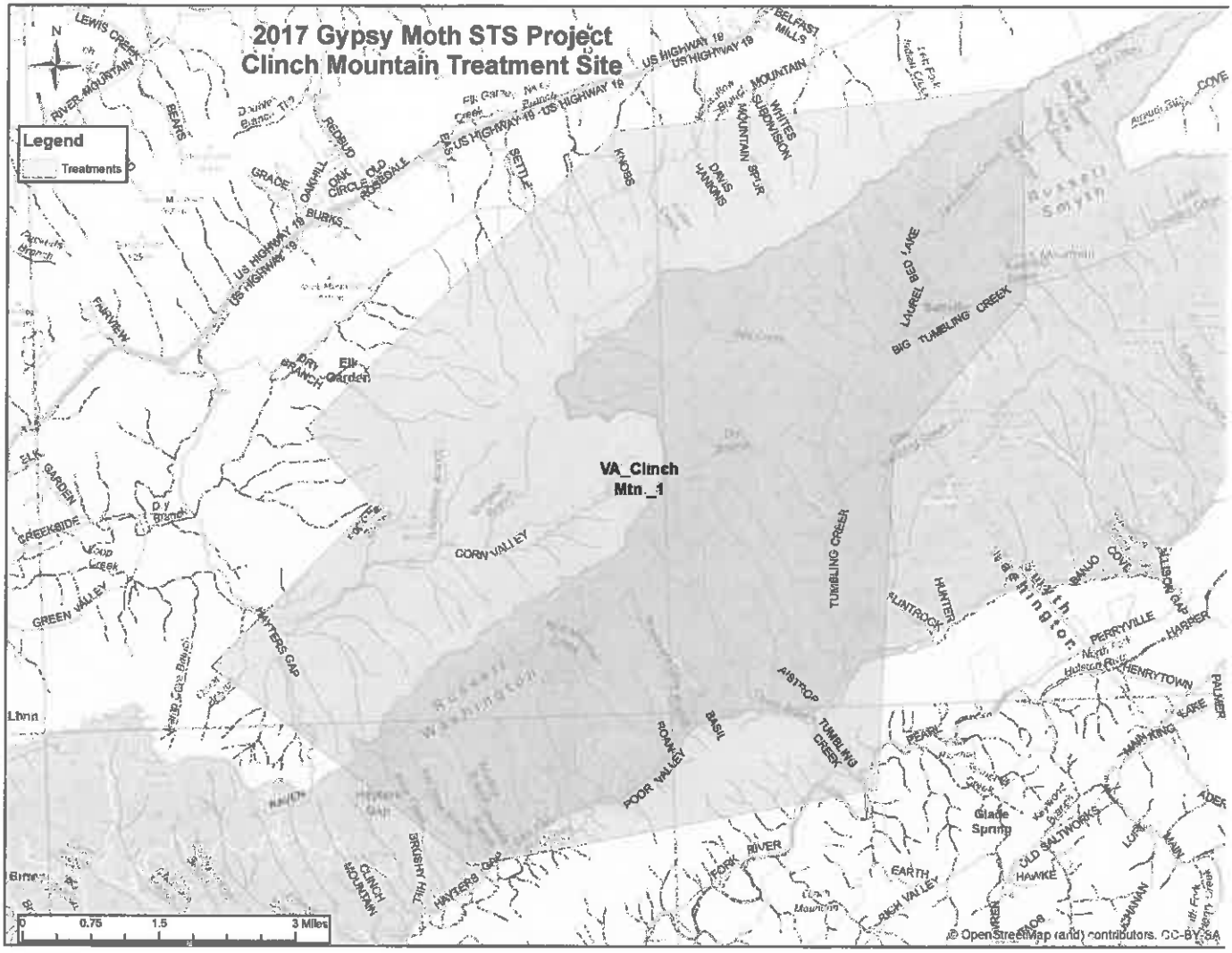
Notification letters were mailed to landowners of record whose property fell within a ½ mile buffer of each of the proposed treatment sites. The letters gave a general description of the proposed action and gave dates and time of public information meetings in their area. At each public meeting, a presentation was given with information on the biology and history of gypsy moth, and survey and management options.

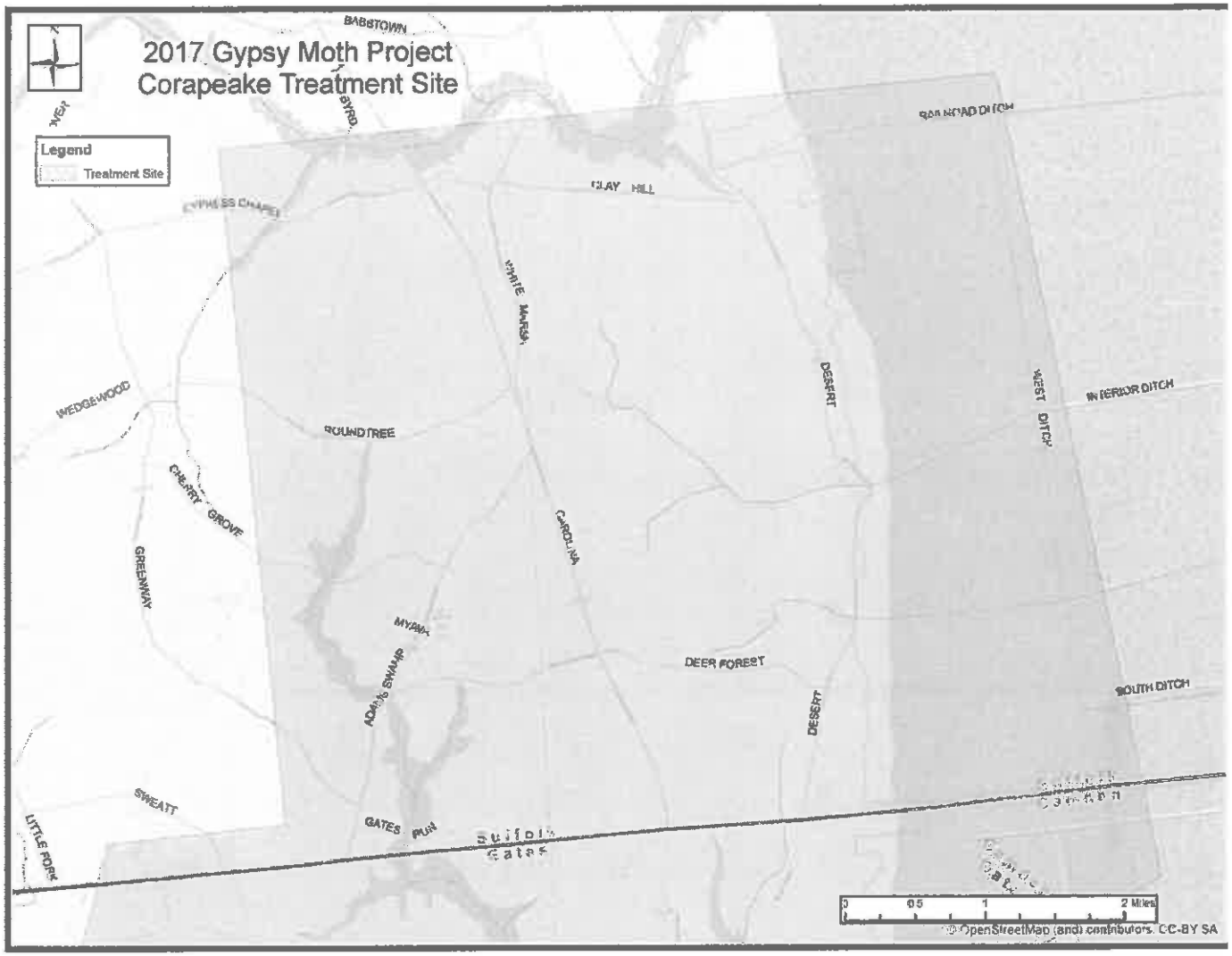
Clinch Mountain Treatment Block
Southwest Virginia Higher Education Center (January 17, 2017)
One individual attended this meeting with questions about the project and treatment materials.

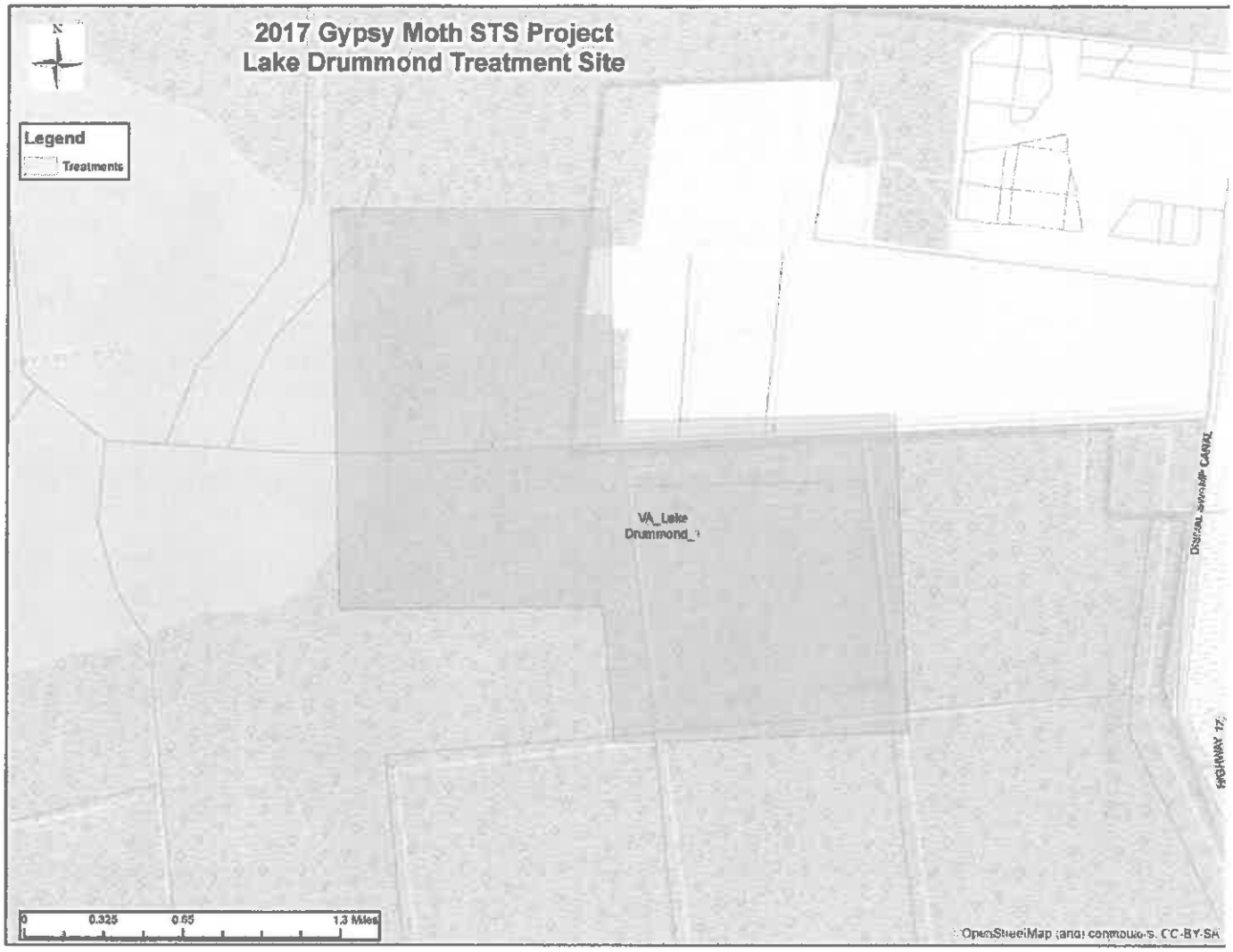
Clinch Mountain Treatment Block
Belfast-Rosedale Vol. Fire Dept.-Auxiliary Building (January 10, 2017)
Four individuals attended this meeting with concerns about the treatment materials and their effect on the environment and human health. The Attendees were also concern about the materials being deposited on their lawn furniture.

Corapeake & Lake Drummond
Virginia Cooperative Extension Office (January 11, 2017) No
pubic attendance.

Appendix C - Maps of proposed treatment sites




2017 Gypsy Moth Project
Corapeake Treatment Site
Legend
Treatment Site
BABSTOWN
CYPRESS CHAPEL
CLAY HILL
WHITE MARSH
DESERT
WEST DITCH
INTERIOR DITCH
WEDGEWOOD
ROUNDTREE
CHERRY GROVE
GREENWAY
CAROLINA
MYAN
ADAMS SWAMP
DEER FOREST
DESERT
SOUTH DITCH
SWEATT
LITTLE FORK
GATES PUR
Suffolk
Gates
0
0.5
1
2 Miles
OpenStreetMap (and) contributors, CC-BY SA


2017 Gypsy Moth STS Project
Lake Drummond Treatment Site
N
Legend
Treatments
VA_Lake Drummond_
DISMAL SWAMP CANAL
HIGHWAY 17
0
0.325
0.65
1.3 Miles
OpenStreetMap (and) contribu-s, CC-BY-SA

Appendix D - Agency Responses to Scoping

Fish and Wildlife Service Final Concurrence Email

From:	chelsey_stephenson@fws.gov on behalf of Virginia Field Office, FW5
To:	Bradfield, Larry (VDACS)
Subject:	Re: 2017 Gypsy Moth STS Project
Date:	Tuesday, March 21, 2017 3:01:01 PM

We have reviewed the project package received on March 07, 2017 for the referenced project. The following comments are provided under provisions of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended, and Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended. This response pertains only to federally threatened and endangered species listed in the state of Virginia. The applicant is responsible for coordinating with the Raleigh Ecological Services Field Office for North Carolina federally listed species.

We concur with the determinations provided in the Species Conclusion Table dated January 3, 2017 (Clinch Mountain), February 28, 2017 (Corapeake [Virginia species only]), and March 3, 2017 (Lake Drummond). As expressed in our 2015 and 2016 responses, please ensure that spraying will not be conducted over open water when spraying in treatment blocks known to support or may support at least one federally listed fish or mussel species. Should project plans change or if additional information on the distribution of listed species or critical habitat becomes available, this determination may be reconsidered. If you have any questions, please contact me at (804) 824-2405, or via email at Chelsey_Stephenson@fws.gov.

Thank you.

Chelsey

2017 Gypsy Moth-Slow the Spread Project

VIRGINIA DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES

From: Larry Bradfield
Virginia Department of Agriculture & Consumer Services 8
Radford Street, Suite 101
Christiansburg, VA 24073-3341
larry.brad field@vdacs. virgi nia.gov
Office: 540-394-2507

To: U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane Gloucester,
Virginia 23061

March 07, 201 7

Re: Project Review Request, 2017 Gypsy Moth-Slow the Spread project, Russell, Smyth, Washington Counties, and the Cities of Chesapeake and Suffolk, Virginia.

We have reviewed the referenced project using the Virginia Field Office's online project review process and have followed all guidance and instructions in completing the review. We completed our review on March 7, 2017 and are submitting our project review package in accordance with the instructions for further review.

Our proposed action consists of: The VA Dept. of Agriculture & Consumer Services (VDACS), in cooperation with the US-Forest Service, as part of the Gypsy Moth Slow the Spread project (STS), is considering aerial pesticide treatments to control recently established, low level populations of gypsy moth found in Virginia. Four sites have been selected for treatment with a single application of the gypsy moth specific mating disruption tactic. Applications will be made from late May to early July. The material being proposed for this treatment is SPLAT GM 0, ISCA technologies, Riverside, CA. This product is certified for organic production.

The location of the project and the action area are identified on the enclosed map. GIS shape file attached.

The project is expected to be completed in late May to July of 2017. Exact timing will be dependent on weather conditions and insect development.

This consultation is part of a site specific biological review of federally funded projects as required in the NEPA process and will be used in the development of an Environmental Assessment of the 2017 Gypsy Moth -Slow the Spread Project in Virginia. These treatments are part of the national Gypsy Moth -Slow the Spread project with funding through a grant from the US Forest Service.

The enclosed project review package provides the information about the species, critical habitat,

and bald eagles considered in our review, and the species conclusions table included in the package identifies our determinations for the resources that may be affected by the project. For additional information, please contact Larry Bradfield at the address listed above.

Sincerely,

Larry Bradfield
STS Program Supervisor

Enclosures:

1) Project Review Package for Clinch Mtn., Corapeake, & Lake Drummond.
2) VDCR-Scoping Response
3) VDGIF-Scoping Response

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
PHONE: (804)693-6694 FAX: (804)693-9032
URL: www.fws.gov/northeast/virginiafield/

Consultation Code: 05E2VA00-2017-SLI-1045 January 03, 2017
Event Code: 05E2VA00-2017-E-01460
Project Name: Gypsy Moth-Slow the Spread project-2017

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of
Interior Fish and Wildlife Service

Project name: Gypsy Moth-Slow the Spread project-2017

Official Species List

Provided by:

Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
(804) 693-6694
http://www.fws.gov/northeast/virginiafield/

Consultation Code: 05E2VA00-2017-SLI-1045
Event Code: 05E2VA00-2017-E-01460

Project Type: INVASIVE SPECIES CONTROL

Project Name: Gypsy Moth-Slow the Spread project-2017
Project Description: The VA Dept. of Agriculture & Consumer Services (VDACS), in cooperation with the US-Forest Service, as part of the Gypsy Moth Slow the Spread project (STS), is considering aerial pesticide treatments to control recently established, low level populations of gypsy moth found in Virginia. Four sites have been selected for treatment with a single application of the gypsy moth specific mating disruption tactic. Applications will be made from late May to early July.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

United States Department of Interior Fish and Wildlife Service

Project name: Gypsy Moth-Slow the Spread project-2017

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-81.83419902099996 36.861864997000055, -81.91575946399996 36.85191313000007, -81.96621746899996 36.884775948000026, -81.93308193399997 36.90969410800005, -81.94599279399995 36.92217470400004, -81.88252479399995 36.96750292400003, -81.80106746899997 36.97209733500006, -81.80154164499999 36.93878372900008, -81.82893529099994 36.915811544000064, -81.83419902099996 36.861864997000055)))

Project Counties: Russell, VA | Smyth, VA | Washington, VA

United States Department of Interior Fish and Wildlife Service

Project name: Gypsy Moth-Slow the Spread project-2017

Endangered Species Act Species List

There are a total of 27 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Arachnids	**Status**	**Has Critical Habitat**	**Condition(s)**
Spruce-Fir Moss spider *(Microhexura montivaga)* Population: Wherever found	Endangered	Final designated	
Clams			
Appalachian monkeyface *(Quadrula sparsa)* Population: Wherever found	Endangered		
birdwing pearlymussel *(Lemiox rimosus)* Population: Wherever found; Except where listed as Experimental Populations	Endangered		
Cracking pearlymussel *(Hemistena lata)* Population: Wherever found; Except where listed as Experimental Populations	Endangered		
Cumberland bean *(Villosa trabalis)* Population: Wherever found; Except where listed as Experimental Populations	Endangered		
Cumberland monkeyface *(Quadrula*	Endangered		

intermedia) Population: Wherever found; Except where listed as Experimental Populations			
Cumberlandian combshell *(Epioblasma brevidens)* Population: Wherever found; Except where listed as Experimental Populations	Endangered	Final designated	
Finerayed pigtoe *(Fusconaia cuneolus)* Population: Wherever found; Except where listed as Experimental Populations	Endangered		
Fluted kidneyshell *(Ptychobranchus subtentum)* Population: Wherever found	Endangered	Final designated	
Littlewing pearlymussel *(Pegias fabula)* Population: Wherever found	Endangered		
Oyster mussel *(Epioblasma capsaeformis)* Population: Wherever found; Except where listed as Experimental Populations	Endangered	Final designated	
Purple bean *(Villosa perpurpurea)* Population: Wherever found	Endangered	Final designated	
Rough rabbitsfoot *(Quadrula cylindrica strigillata)* Population: Wherever found	Endangered	Final designated	
Sheepnose Mussel *(Plethobasus cyphyus)* Population: Wherever found	Endangered		
Shiny pigtoe *(Fusconaia cor)*	Endangered		

Population: Wherever found; Except where listed as Experimental Populations			
Slabside Pearlymussel *(Pleuronaia dolabelloides)* Population: Wherever found	Endangered	Final designated	
Snuffbox mussel *(Epioblasma triquetra)* Population: Wherever found	Endangered		
Spectaclecase (mussel) *(Cumberlandia monodonta)* Population: Wherever found	Endangered		
Tan riffleshell *(Epioblasma florentina walkeri (=e. walkeri))* Population: Wherever found	Endangered		
Fishes			
Spotfin Chub *(Erimonax monachus)* Population: Wherever found, except where listed as an experimental population	Threatened	Final designated	
Yellowfin madtom *(Noturus flavipinnis)* Population: U.S.A. (TN, VA-specified portions of the Holston River and watershed; see 17.84(e)(1)(i))	Experimental Population, Non-Essential		
Yellowfin madtom *(Noturus flavipinnis)* Population: Wherever found, except where listed as an experimental population	Threatened	Final designated	
Mammals			
Carolina Northern Flying squirrel	Endangered		

(Glaucomys sabrinus coloratus) Population: Wherever found			
Gray bat *(Myotis grisescens)* Population: Wherever found	Endangered		
Indiana bat *(Myotis sodalis)* Population: Wherever found	Endangered		
Northern long-eared Bat *(Myotis septentrionalis)* Population: Wherever found	Threatened		
Virginia Big-Eared bat *(Corynorhinus (=plecotus) townsendii virginianus)* Population: Wherever found	Endangered	Final designated	

Critical habitats that lie within your project area

The following critical habitats lie fully or partially within your project area.

Fishes	Critical Habitat Type
Spotfin Chub *(Erimonax monachus)* Population: Wherever found, except where listed as an experimental population	Final designated

FWS National Wildlife Refuges and Fish Hatcheries

There are no refuges or fish hatcheries within your project area.

Species Conclusions Table

Project Name: 2017 Gypsy Moth Slow the Spread Project-Clinch Mountain Site

Date: 01/03/17

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act	Notes / Documentation
Spruce-Fir Moss spider *(Microhexura montivaga)*	Potential habitat present and no current survey conducted	No affect	-gypsy moth mating disruption pheromones do not affect other species. -aerial applications do not disturb the habitat of this species.
Appalachian monkeyface *(Quadrula sparsa*	Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
birdwing pearlymussel *(Lemiox rimosus)*	Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Cracking pearlymussel *(Hemistena lata)*	Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Cumberland bean *(Villosa trabalis)*	Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Cumberland monkeyface *(Quadrula intermedia)*	Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Cumberlandian combshell *(Epioblasma brevidens)*	Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Finerayed pigtoe *(Fusconaia cuneolus)*	Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Fluted kidneyshell *(Ptychobranchus subtentum)*	-Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Littlewing pearlymussel *(Pegias fabula)*	-Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Oyster mussel *(Epioblasma capsaeformis)*	-Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Purple bean *(Villosa perpurpurea)*	-Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Rough rabbitsfoot *(Quadrula cylindrica strigillata)*	-Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Sheepnose Mussel *(Plethobasus cyphyus)*	-Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Shiny pigtoe *(Fusconaia cor)*	-Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Slabside Pearlymussel *(Pleuronaia dolabelloides)*	-Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Snuffbox mussel *(Epioblasma triquetra)*	-Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act	Notes / Documentation
Spectaclecase (mussel) *(Cumberlandia monodonta)*	-Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Tan riffleshell *(Epioblasma florentina walkeri (=e. walkeri)*	-Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Spotfin Chub *(Erimonax monachus)*	-Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Yellowfin madtom *(Noturus flavipinnis)*	-Potential habitat present and no current survey conducted	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.
Carolina Northern Flying squirrel *(Glaucomys sabrinus coloratus)*	-Potential habitat present and no current survey conducted	No affect	-gypsy moth mating disruption pheromones do not affect other species. -aerial applications do not disturb den sites of this species. -timing of aerial applications will not disrupt the feeding habits of this species.
Gray bat *(Myotis grisescens)*	-Potential habitat present and no current survey conducted	Not likely to adversely affect	-gypsy moth mating disruption pheromones do not affect other species. -summer habitat for this species is not disturbed during application -timing of aerial applications will not disrupt the feeding habits or food source for this species
Indiana bat *(Myotis sodalis)*	-Potential habitat present and no current survey conducted	Not likely to adversely affect	-gypsy moth mating disruption pheromones do not affect other species. -summer habitat for this species is not disturbed during application -timing of aerial applications will not disrupt the feeding habits or food source for this species
Northern long-eared Bat *(Myotis septentrionalis)*	-Potential habitat present and no current survey conducted	Not likely to adversely affect	-gypsy moth mating disruption pheromones do not affect other species. -summer habitat for this species is not disturbed during application -timing of aerial applications will not disrupt the feeding habits or food source for this species

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act	Notes / Documentation
Virginia Big-Eared bat *(Corynorhinus (=plecotus) townsendii virginianus)*	-Potential habitat present and no current survey conducted	Not likely to adversely affect	-gypsy moth mating disruption pheromones do not affect other species. -summer habitat for this species is not disturbed during application -timing of aerial applications will not disrupt the feeding habits or food source for this species
Bald Eagle *(Haliaeetus leucocephalus)*	-Unlikely to disturb nesting bald eagles -does not intersect with an eagle concentration area	No Eagle Act permit required	No nests within 660" and not within a concentration area
Critical habitat	Spotfin Chub *(Erimonax monachus)*	No affect	-treatments are not applied over open water -soils and stream beds are not disturbed during applications -streams in the treatment area are predominantly canopy covered.

United States Department of
Interior Fish and Wildlife Service

Project name: Gypsy Moth-Slow the Spread

Official Species List

Provided by:

Raleigh Ecological Services Field Office
POST OFFICE BOX 33726
RALEIGH, NC 27636
(919) 856-4520

Expect additional Species list documents from the following office(s):

Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
(804) 693-6694
http://www.fws.gov/northeast/virginiafield/

Consultation Code: 04EN2000-2017-SLI-0344
Event Code: 04EN2000-2017-E-00831

Project Type: INVASIVE SPECIES CONTROL

Project Name: Gypsy Moth-Slow the Spread
Project Description: The VA Dept. of Agriculture & Consumer Services (VDACS), in cooperation with the US-Forest Service, as part of the Gypsy Moth Slow the Spread project (STS), is considering aerial pesticide treatments to control recently established, low level populations of gypsy moth found in Virginia. Four sites have been selected for treatment with a single application of the gypsy moth specific mating disruption tactic. Applications will be made from late May to early July.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

United States Department of Interior Fish and Wildlife Service

Project name: Gypsy Moth-Slow the Spread

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-76.52396277899999 36.625079406000054, -76.51372689099998 36.55062790200003, -76.53407202899996 36.550367351000034, -76.54169092699993 36.550229916000035, -76.55807142999998 36.55025996100005, -76.57549196199994 36.55066000100004, -76.61741324799993 36.550690116000055, -76.62464181999997 36.55059057300008, -76.64951565699994 36.550655093000046, -76.64929071599994 36.554653004000045, -76.62467351199996 36.55492128000003, -76.62502679899995 36.62507173400007, -76.52396277899999 36.625079406000054)))

Project Counties: Camden, NC | Gates, NC | Suffolk, VA

United States Department of Interior
Fish and Wildlife Service

Project name: Gypsy Moth-Slow the Spread

Endangered Species Act Species List

There are a total of 6 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	Status	Has Critical Habitat	Condition(s)
Red Knot *(Calidris canutus rufa)* Population: Wherever found	Threatened		
Red-Cockaded woodpecker *(Picoides borealis)* Population: Wherever found	Endangered		
Fishes			
Atlantic sturgeon *(Acipenser oxyrinchus oxyrinchus)* Population: Carolina DPS	Endangered		
Shortnose sturgeon *(Acipenser brevirostrum)* Population: Wherever found	Endangered		
Mammals			
Northern long-eared Bat *(Myotis septentrionalis)* Population: Wherever found	Threatened		
Reptiles			
American alligator *(Alligator mississippiensis)*	Similarity of appearance		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Species Conclusions Table

Project Name: 2017 Gypsy Moth STS project-Corapeake Site, North Carolina species-page 1
Date: 02/28/17

Species/Resource Name	Conclusion	ESA Section 7/Eagle Act	Notes / Documentation
Red-Cockaded woodpecker *(Picoides borealis)*	Potential habitat present and no current survey conducted	No affect	-gypsy moth pheromones do not affect other species. -habitat for this species is not disturbed during aerial applications
Red Knot *(Calidris camutus rufa)*	Potential habitat present and no current survey conducted	No Affect	-gypsy moth pheromones do not affect other species. -habitat for this species is not disturbed during aerial applications -soils, stream beds, and shore lines are not disturbed during this application.
Atlantic sturgeon *(Acipenser oxyrinchus oxyrinchus)*	Potential habitat present and no current survey conducted	No Affect	-pheromone materials are not applied over non-forested areas or open water. -soils, streambeds, and shorelines are not disturbed during this application.
Shortnose sturgeon *(Acipenser brevirostrum)*	Potential habitat present and no current survey conducted	No Affect	-pheromone materials are not applied over non-forested areas or open water. -soils, streambeds, and shorelines are not disturbed during this application.
Northern long-eared Bat *(Myotis septentrionalis)*	Potential habitat present and no current survey conducted	No affect	-gypsy moth mating disruption pheromones do not affect other species. -summer habitat for this species is not disturbed during application -timing of aerial applications will not disrupt the feeding habits or food source for this species
American alligator *(Alligator mississippiensis)*	Potential habitat present and no current survey conducted	No affect	-pheromone materials are not applied over non-forested areas or open water. -soils, streambeds, and shorelines are not disturbed during this application.
Critical habitat	No critical habitat present	No effect	
Bald Eagle *(Haliaeetus leucocephalus*		No Eagle Act permit required	No nest within 660'and not within a concentration area. Unlikely to disturb nesting bald eagles

Species Conclusions Table

Project Name: 2017 Gypsy Moth STS project-Corapeake Site, Virginia species-page 1

Date: 02/28/17

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Red-Cockaded woodpecker *(Picoides borealis)*	Potential habitat present and no current survey conducted	No affect	-gypsy moth pheromones do not affect other species. -habitat for this species is not disturbed during aerial applications
Northern long-eared Bat *(Myotis septentrionalis)*	Potential habitat present and no current survey conducted	No affect	-gypsy moth mating disruption pheromones do not affect other species. -summer habitat for this species is not disturbed during application -timing of aerial applications will not disrupt the feeding habits or food source for this species
Critical habitat	No critical habitat present	No effect	
Bald Eagle *(Haliaeetus leucocephalus)*	-	No Eagle Act permit required	No nest within 660' and not within a concentration area Unlikely to disturb nesting bald eagles

United States Department of
Interior Fish and Wildlife Service

Project name: 2017 Gypsy Moth-Slow The Spread Project- Lake Drummond

Official Species List

Provided by:

Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
(804) 693-6694
http://www.fws.gov/northeast/virginiafield/

Consultation Code: 05E2VA00-2017-SLI-1891
Event Code: 05E2VA00-2017-E-03340

Project Type: INVASIVE SPECIES CONTROL

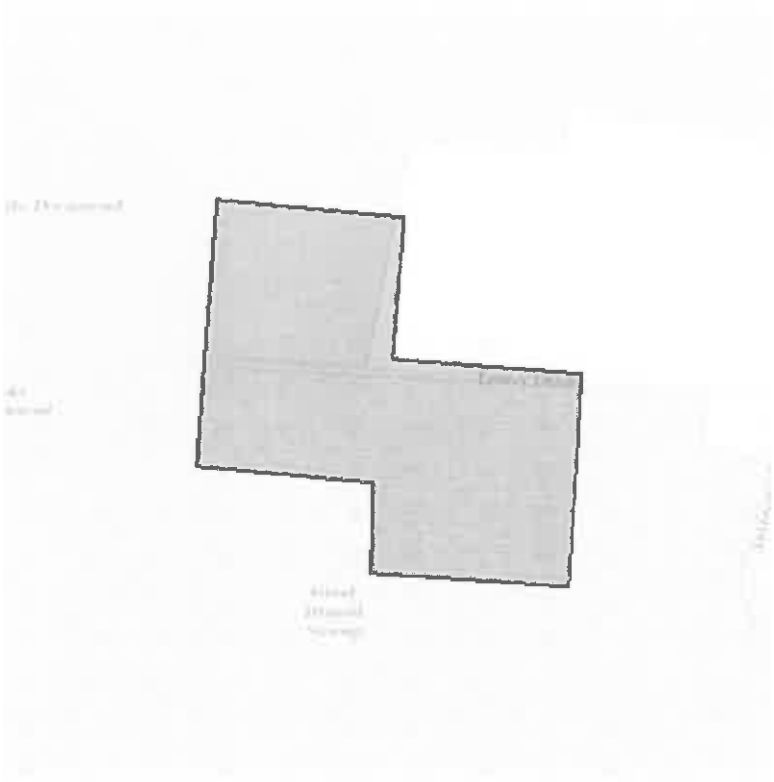
Project Name: 2017 Gypsy Moth-Slow The Spread Project- Lake Drummond
Project Description: The VA Dept. of Agriculture & Consumer Services (VDACS), in cooperation with the US-Forest Service, as part of the Gypsy Moth Slow the Spread project (STS), is considering aerial pesticide treatments to control recently established, low level populations of gypsy moth found in Virginia. Four sites have been selected for treatment with a single application of the gypsy moth specific mating disruption tactic. Applications will be made from late May to early July. The material being proposed for this treatment is SPLAT GM O, ISCA technologies, Riverside, CA. This product is certified for organic production.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

United States Department of Interior Fish
and Wildlife Service

Project name: 2017 Gypsy Moth-Slow The Spread Project- Lake Drummond

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-76.40814111399999 36.59463264100003, -76.40938599599998 36.57571556700003, -76.43130238099997 36.576728639000066, -76.43117395599995 36.58488911300003, -76.45076071999995 36.58625208300003, -76.44865830899994 36.60998895400007, -76.42793944099998 36.608462100000054, -76.42908123699993 36.59587527700006, -76.40814111399999 36.59463264100003)))

Project Counties: Chesapeake, VA

United States Department of Interior
Fish and Wildlife Service

Project name: 2017 Gypsy Moth-Slow The Spread Project- Lake Drummond

Endangered Species Act Species List

There are a total of 1 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Mammals	Status	Has Critical Habitat	Condition(s)
Northern long-eared Bat *(Myotis septentrionalis)* Population: Wherever found	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

FWS National Wildlife Refuges and Fish Hatcheries

The following FWS National Wildlife Refuges and Fish Hatcheries lie fully or partially within your project area.

Great Dismal Swamp National Wildlife Refuge
3100 DESERT ROAD
SUFFOLK, VA 23434
(757) 986-3705

Species Conclusions Table

Project Name: 2017 Gypsy Moth-Slow the Spread-Lake Drummond

Date: 03/03/2017

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Northern long-eared Bat *(Myotis septentrionalis)*	Potential habitat present and no current survey conducted	No affect	-gypsy moth mating disruption pheromones do not affect other species. -summer habitat for this species is not disturbed during application -timing of aerial applications will not disrupt the feeding habits or food source for this species
Critical habitat	No critical habitat present	No effect	
Bald Eagle *(Haliaeetus leucocephalus*	-Unlikely to disturb nesting bald eagles -Does not intersect with an eagle concentration area	No Eagle Act permit required	No nest within 660' and not within a concentration area

Molly J. Ward
Secretary of Natural Resources

COMMONWEALTH of VIRGINIA

Department of Game and Inland Fisheries

February 7, 2017

Robert W. Duncan
Executive Director

Larry Bradfield
VDACS-OPIS
Slow the Spread Office
8 Radford Street, Suite 101
Christiansburg, VA 24073

ESSLog# 37634 – 2017 Gypsy Moth Spray Blocks

Dear Mr. Bradfield:

Pursuant to your letter of request, we have reviewed the proposed gypsy moth treatment blocks referenced above and offer the following comments. The Virginia Department of Game and Inland Fisheries (VDGIF), as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over those resources, inclusive of state or federally listed species, but excluding listed insects. We are a consulting agency under the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), and we provide environmental analysis of projects or permit applications coordinated through the Virginia Department of Environmental Quality (DEQ), the Virginia Marine Resources Commission (MRC), the Virginia Department of Transportation (DOT), the Army Corps of Engineers (ACOE), the Federal Energy Regulatory Commission (FERC), and other state or federal agencies. Our role in these procedures is to determine likely impacts upon fish and wildlife resources and habitat, and to recommend appropriate measures to avoid, reduce or compensate for those impacts.

The Virginia Department of Agriculture and Consumer Services (VDACS), in cooperation with the US Department of Agriculture's Forest Service, proposes to treat 4 blocks of land with a single application of the gypsy moth specific mating disruption tactic (Disrupt II GM or Disrupt BioFlake GM, or SPLAT-GM). Based on a review of our data records, we offer the following comments and recommendations:

VA Clinch Mountain 1:

According to our records, Tumbling Creek and its tributaries are located within the proposed spray block and have been designated as wild or stockable trout streams. The North Fork Holston River is located adjacent to this spray block and has been designated a Threatened

and Endangered Species Water due to the presence of federally Threatened spotfin chubs. This spray block also is within a buffer we place around documented major hibernacula for state endangered tri-color and little brown bats. Based on the scope of the proposed application andthe chemicals proposed for use, we do not anticipate this project to result in adverse impacts upon these species and resources. We recommend coordination with the USFWS regarding potential impacts upon federally-listed species.

We recommend coordination with Tom Hampton, DGIF Region III Facilities Manager, at 276-783-4860 to ensure the gypsy moth spraying does not interfere with any ongoing habitat management or public recreation on Clinch Mountain Wildlife Management Area, much of which is encompasses within this spray block.

VA Konnarock 1:

According to our records, Buck Branch, Rush Creek, Whitetop Laurel Creek and their tributaries are located within the proposed spray block and have been designated as wild or stockable trout streams. Whitetop Laurel Creek also has been designated a Threatened and Endangered Species Water due to the presence of ST greenfin darters. Based on the scope of the proposed application and the chemicals proposed for use, we do not anticipate this project to result in adverse impacts upon these species and resources.

VA Corapeake 1:

We document state Endangered canebrake rattlesnakes and state endangered Rafinesque's eastern big-eared bats from this spray block. Based on the scope of the proposed application and the chemicals proposed for use, we do not anticipate this project to result in adverse impacts upon these resources or the species they support.

VA Lake Drummond 1:

We document federally Threatened northern long-eared bats from the project area. Based on the scope of the proposed application and the chemicals proposed for use, we do not anticipate this project to result in adverse impacts upon these species and resources. We recommend coordination with the USFWS regarding potential impacts upon this federally-listed species.

Overall project recommendations:

We recommend that aerial applications of pesticides occur during dry weather and with winds less than 10 mph. We recommend that applications not be performed within 24 hours of a rain event or predicted rain event. We recommend that no-spray buffers of at least 100-feet on all streams and wetlands lacking canopy cover be established and adhered to.

Thank you for the opportunity to comment on this project. Please contact Amy Ewing or me at 804-367-0509 if we can be of further assistance.

Sincerely,

Raymond T. Fernald, Manager
Environmental Programs

COMMONWEALTH of VIRGINIA

Molly Joseph Ward
Secretary of Natural Resources

Department of Historic Resources
2801 Kensington Avenue, Richmond, Virginia 23221

Julie V. Langan
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
www.dhr.virginia.gov

February 16, 2017

Mr. Larry Bradfield
Department of Agriculture and Consumer
Services 1580 N. Franklin Street, Suite 7
Christiansburg, VA 24073

RE: Gypsy Moth Slow the Spread
Project - 2017 DHR File No.
2017-0095

Dear Mr. Bradfield:

We have received your request for comments on the project referenced above. The project, as presented, involves aerial pesticide treatments at four (4) sites throughout Virginia. Our comments are provided as assistance to USDA – Forest Service and VDACS in meeting your collective responsibility under Section 106 of the National Historic Preservation Act.

Our Archives show that the proposed treatment sites contain numerous recorded historic resources; however, given the nature of the project, impacts to these and unrecorded resources are unlikely. Accordingly, we find that a determination of *no adverse effect* to historic properties is appropriate for this project. No further study or consultation is recommended.

Thank you for seeking the comments of DHR on this important project. If you have any questions, please do not hesitate to contact me at roger.kirchen@dhr.virginia.gov.

Sincerely,

Roger W. Kirchen,
Director Review and
Compliance Division

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5443
Fax: (540) 387-5446

Northern Region Office
5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7029
Fax: (540) 868-7033

Eastern Region Office
2801 Kensington Avenue
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

Molly Joseph Ward
Secretary of Natural Resources

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz
Deputy Director of Administration and Finance

David C. Dowling
Deputy Director of Soil and Water Conservation and Dam Safety

Thomas L. Smith
Deputy Director of Operations

January 11, 2017

Larry Bradfield
VA Dept. of Agriculture & Consumer Services PO
Box 1163
Richmond, VA 23218

Re: 2017 Gypsy Moth STS Project Dear

Mr. Bradfield:

The Department of Conservation and Recreation's Division of Natural Heritage (OCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat ofrare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

DCR's review of gypsy moth treatment areas is based on both known and potential occurrences of natural heritage resources within or adjacent to proposed blocks. A primary concern from the standpoint of biodiversity preservation is the impact that gypsy moth suppression treatments have on non-target organisms. For our purposes, non-target organisms include those species directly susceptible to the indications of a potential treatment (e.g. Lepidopterans killed by *Bt),* as well as species that may be secondarily affected by a potential treatment. Secondarily-affected organisms may include, but are not limited to, rare plants with insect pollinators that are directly susceptible to gypsy moth treatments, and songbirds or small mammals faced with a diminished prey base following gypsy moth treatment.

OCR also urges extreme caution in the potential application of Dimilin to proposed treatment blocks. Because so many taxa can be susceptible to Dimilin, it is imperative that this treatment be used only in areas of extreme gypsy moth defoliation where the potential for natural heritage resources to occur is low. Dimilin should not be used in areas where it may enter either permanent or intermittent watercourses, regardless if the canopy over the stream is open or closed. We also advise against the use of Dimilin in large blocks (several hundred acres or larger) where the foraging efficiency of forest-interior songbirds may be compromised by declines in arthropod abundance.

OCR supports the use of pheromone disruption mechanisms for control of the gypsy moth as the preferred treatment for gypsy moth.

With these cautions in mind, OCR submits the following comments on the Gypsy Moth Suppression Proposal 2017 blocks:

Clinch Mountain

Biotics documents the presence of natural heritage resources within two miles of the project area. However, due to the scope of the activity and the distance to the resources, we do not anticipate that this project will adversely impact these natural heritage resources.

The Redrock Mountain and The Channels Natural Area Preserves have been documented within two miles of the project boundary. However, due to the scope of the activity proposed, OCR does not anticipate any negative impacts to the natural area preserve and associated natural heritage resources.

Konnarock, Lake Drummond and Corapeake

Biotics documents the presence of natural heritage resources within two miles of the project area. However, due to the scope of the activity and the distance to the resources, we do not anticipate that this project will adversely impact these natural heritage resources.

The Virginian DCR Karst staff screened this project against the Virginia Speleological Survey (VSS) database and the Virginia DMME sinkhole coverage for documented sensitive Karst features and caves. Based on this review, OCR does not anticipate adverse impacts to documented karst features from the proposed Gypsy moth STS project.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the OCR, OCR represents VDACS in comments regarding potential impacts on state- listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects, provided the pheromone disruption mechanisms are the only gypsy moth control used.

In addition, Redrock Mountain and The Channels Natural Area Preserves have been documented within 2 miles of the Clinch Mountain project site. Please coordinate with Claiborne Woodall, DCR's Regional Supervisor / Natural Areas Steward, at (276) 676-5673 or Clairborne.Woodall@dcr.virgin in.gov for more information about the preserve and associated natural heritage resources.

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from hllp:// afwis.org/fwis/ or contact Ern ie Aschenbach at 804-367-2733 or Ernie.Aschenbac h@dgi f vi rgi nia.gov. Clinch Mountain Site: This project area is located within 2 miles of documented occurrences of state and federally listed animals, and state listed animals. In addition, according to the information currently in our files, The North Fork Holston River, which has been designated by the Virginia Department of Game and Inland Fisheries (VDGIF) as a "Threatened and Endangered Species Water" for the Sportfin chub, Shiny pigtoe, Longhead darter and Purple lilliput is within 2 miles of the project area. Konnarock Site: This project area is within 2 miles of documented occurrences of state listed animals. In addition, the South Fork Holston River has been designated by the VDGIF as being "Threatened and Endangered Species Waters" for the Sharphead darter is within 2 miles of the project area. Also, Whitetop Laurel Creek has also been designated by the VDGIF as being "Threatened and Endangered Species Waters"for the Greenfin darter is within 2 miles of the project area. Corapeake and Lake Drummond Sites: These project areas are within 2 miles of documented occurrences of state listed animals. Therefore, DCR recommends coordination with the U.S. Fish and Wildlife Service (USFWS) and Virginia's regulatory authority for the management and protection of this species, the VDGIF, to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).

Should you have any questions or concerns, feel free to contact me at 804-692-0984. Thank you for the opportunity to comment on this project.

Sincerely

Alli Baird, LA, ASLA
Coastal Zone Locality Liaison

Cc: Amy Ewing, VDGIF
Troy Andersen,
USFWS